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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,485	03/12/2001	August Sprock	HM-394PCT	5638
7590		03/23/2004	EXAMINER	
Friedrich Kueffner		YEE, DEBORAH		
317 Madison Avenue		ART UNIT		
Suite 910		PAPER NUMBER		
New York, NY 10017		1742		

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/744,485

Applicant(s)

SPROCK, AUGUST

Examiner

Deborah Yee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 Dec is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over English translation of Japanese patent 57-104650 in view of English abstract of Japanese patent 362112732 as stated from the previous office action dated September 24, 2003.

### ***Response to Arguments***

Applicant's arguments filed December 29, 2003 have been fully considered but they are not persuasive. Applicant submitted that claim 5 of the present application does not claim the manufacture of dual-phase steels but rather a method which ensures a dual-phase structure. It is the examiner's position that a method of manufacturing a dual phase and a method of ensuring a dual phase are substantially the same since the end product is the same which is a dual phase steel.

Applicant refers to Table 2 of JP'650 and stated that steels 5 to 8 do meet the microstructural phase limitations of the present invention, but depending on the given composition of the steels, values can deviated as shown in steels 9, 10, 15 and 16. It is the examiner's position that it is well known in the metallurgical art that alloying elements play an important role along with the heating temperature and cooling rates to

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determine the steel microstructure. For example, Cr is an austenite former and Ni is a ferrite former. Although applicant has not required compositional limitations in his present invention, such would also be a factor in determining his microstructure in absence of proof to the contrary. Note that applicant has no working examples to establish that any steel composition can be applied to his method.

Applicant submitted that Table 2 does not make clear whether other structural components are contained in the cooled steel in addition to the mentioned structural components. It is the examiner's position that Table 2 does make it clear that there is no other structural components than what is disclosed. Note for example Steel No. 5 shows F+15%M, which would indicate 15% Martensite and a balance (85%) ferrite.

Moreover, regardless of whether the JP'650 primarily discusses steel properties and less on the obtained structures, such does not overlook the fact that JP'650 produces a dual-phase steel in substantially the same manner as applicant.

Applicant submitted that prior art Table 2 and the method steps described in connection with table 2 does not exclusively produce a dual-phase structure of 70-90% ferrite and 30-10% martensite in all cases as is true the present invention. The prior art method produces values which deviate significantly from the limits according to the present invention, even when using parameters stated in the method claim 5. It is the examiner's position that JP'650 in Table 2 discloses examples 4 to 8 which closely meet the process and microstructural limitations of claim 5. Although examples 1 to 3, 9 and 10 in table 2 follow the same process but produce a different ferrite-martensite ratio, such result occurs because of different compositions. Applicant submitted that

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his present invention is not dependent on composition, but there is no convincing evidence (test data) to show that any steel composition can be applied to his method to achieve 70-90% ferrite and 30 to 10% martensite by simply controlling cooling rate and temperature. It is a well known metallurgical fact that alloying constituents are a factor in determining the microstructure.

Applicant submitted that the JP'650 does not disclose or suggest the method step of claim 5 of the present application in which the cooling curve enters the ferrite region with a temperature which is still so high that the ferrite formation can take place quickly. A more detailed description of this step is disclosed on page 3 of applicant's specification which states "...in that during the first cooling stage the cooling speed of 20K/s to 30K/s that the cooling curve enters the ferrite region with a temperature still so high that the ferrite formation can take place quickly and that already at least 70% of the austenite has been transformed into ferrite before the beginning of the second cooling stage." Similar to the present invention, JP'650 examples 4 to 8 in Table 2 and 3<sup>rd</sup> paragraph on page 14 discloses entering the ferrite region with a temperature so high that 70-85% ferrite formation takes place at a cooling rate of 20C/sec (equivalent to 20K/sec) before beginning the second cooling stage. Hence claim would not patentably distinguish over prior art.

In regard to JP'732, it is just a general reference to show that control cooling steel sheet by using several water cooling stages positioned successively at a spacing from one another is well known and conventional in the art.

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If applicant decides to appeal, it would greatly appreciated if he could provide a copy of the English translation of Japanese patent 57-104650 since it is missing from examiner's file.

**Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on Monday-Friday from 6:00 to 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dy

  
**DEBORAH YEE**  
**PRIMARY EXAMINER**